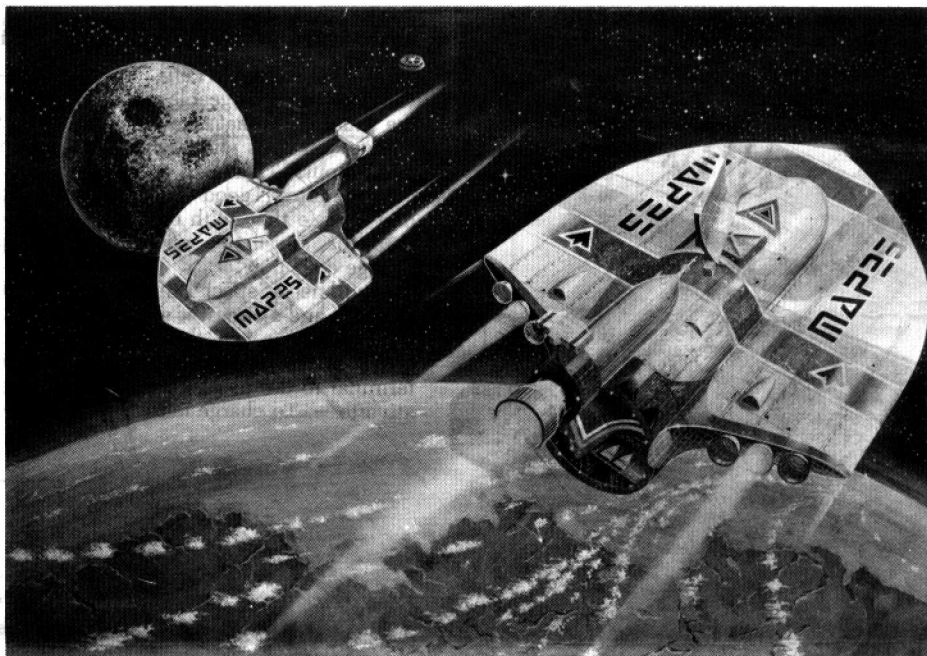


## 1979/1980 CATALOGUE: SALES EXPECTED TO BE OVER 100,000

It's the biggest and best catalogue yet from Maplin, with a sales forecast of 125,000 copies over its two year life. The inclusion of some pages in full colour this time, leaves the reader in no doubt that the Maplin catalogue is something special. Over half the catalogue has been completely rewritten and there are an additional 54 pages taking the total up to 280 pages. It is packed with interesting items all fully described and illustrated. In fact there are well over 2000 photographs and line drawings. Since the last catalogue we have introduced over 1200 new lines taking the total number of stock lines to over 5000 for the first time. One of the major improvements this time is our greatly expanded range of integrated circuits of all kinds; an improved range of C-MOS and an almost complete range of low-power Schottky TTL, as well as dozens of new linear IC's and a whole range of micro-processor products all at marvellous prices as usual.

Customers can look forward to our taking on more, interesting new lines with each newsletter than has previously been the case. At last in our big new warehouse we've got room to breathe — over a ¼ million cubic feet of storage space in fact, which will hold over £1 million of stock. We shall be employing over 75 people to ensure that our same day service continues without a hitch.



Please note our new telephone number Southend-on-Sea (0702) 554155 for mail order and shop enquiries and 554000 for our shop on Saturdays. And note too the introduction of a telephone sales service for purchases by credit card, with same day despatch on orders placed before 2 p.m.

This superb new catalogue has been over nine months in preparation and

we hope it will give you many hours of enjoyment as well as being a useful reference book over the next two years. We are already planning our 1981/82 catalogue due for publication in November 1980 and we'd like to know if you think there are any improvements that could be made. So if you've any ideas please write to the Editor, Maplin News, P.O. Box 3, Rayleigh, Essex.

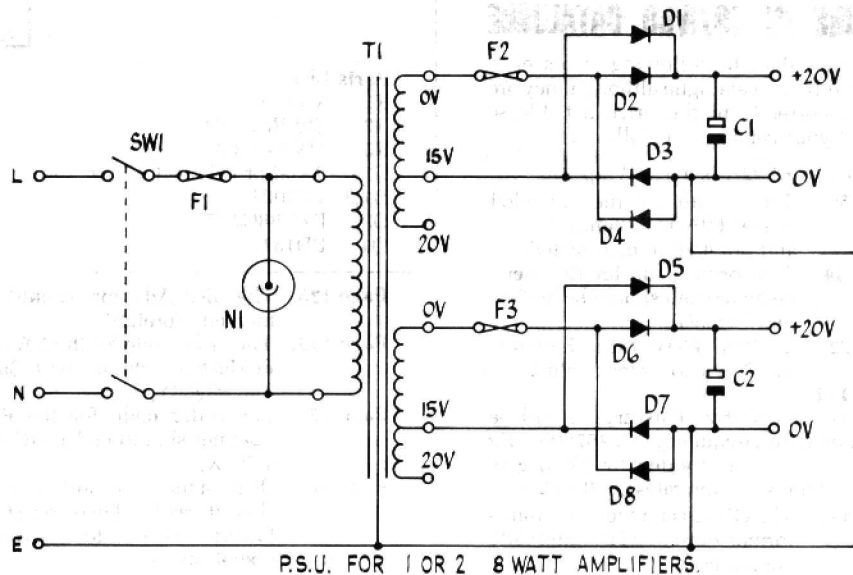
### POWER SUPPLY FOR 8W AMP KIT

The power supply shown below is suitable for driving one or two 8W Amp Kits (see cat. pages 237 and 262).

#### Parts List

SW1	Toggle Sw
F1,2,3,	Fuse 20mm 1A (and holders to suit)
N1	Pan Neon
T1	Tr 20V 1A
D1-8	1N4003
C1,2	Axial 2200µF 40V

Drive each power amp separately, one each +20V and 0V pair.



Special Offers	Page 2
MM57160 Circuits	Page 4
New Books	Page 3
Letters	Page 4
Complete Price List	Page 7

## SPECIAL OFFERS

### FOUR RECHARGEABLE NICKEL - CADMIUM CELLS (HP7 SIZE)

Four of our high quality quick-charge nickel-cadmium cells at a big saving. See page 51 of our catalogue for full details of these remarkable cells and also see the constant current charger shown in this newsletter.

Four NiCad AA cells for only £3.99 (incl. 30p VAT)

SAVES OVER £1 ON OUR USUAL PRICE!

Order As SP28F

### MM57160 TIMER IC

This amazing new integrated circuit described on catalogue pages 245 and 246 and elsewhere on this newsletter, is offered here at a whole £1 off usual price. And our usual price is already 70p less than National Semiconductors' recommended trade price for this IC.

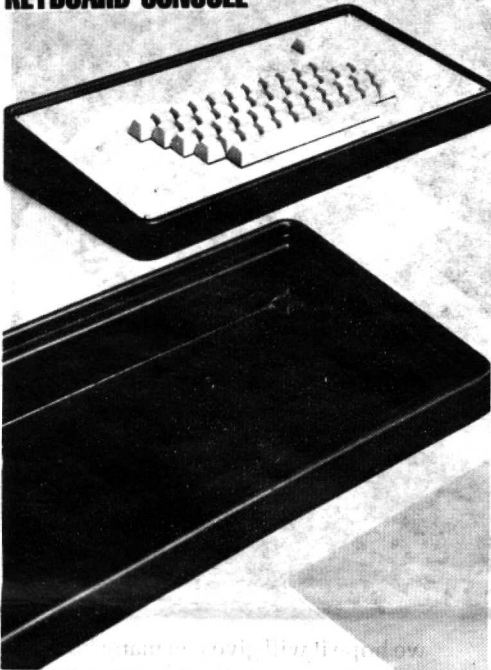
Usual price: £5.99

Special offer price: £4.99 (incl. 37p VAT)

SAVE £1 ON OUR USUAL PRICE!

Order As SP29G

### KEYBOARD CONSOLE



A black, vacuum-formed, ABS box with a slightly sloping front panel ideal for keyboards, supplied with an anodised aluminium front panel measuring 386 x 188 mm. A flat area at the rear of the case is available for cable entry or socket mounting. Base has recesses to locate the self-adhesive non-scratch feet supplied. Overall size: 405 x 210 x 57/30 mm.

Order As XY15R (Verobox 503) Price £8.95  
(Export price £8.29)

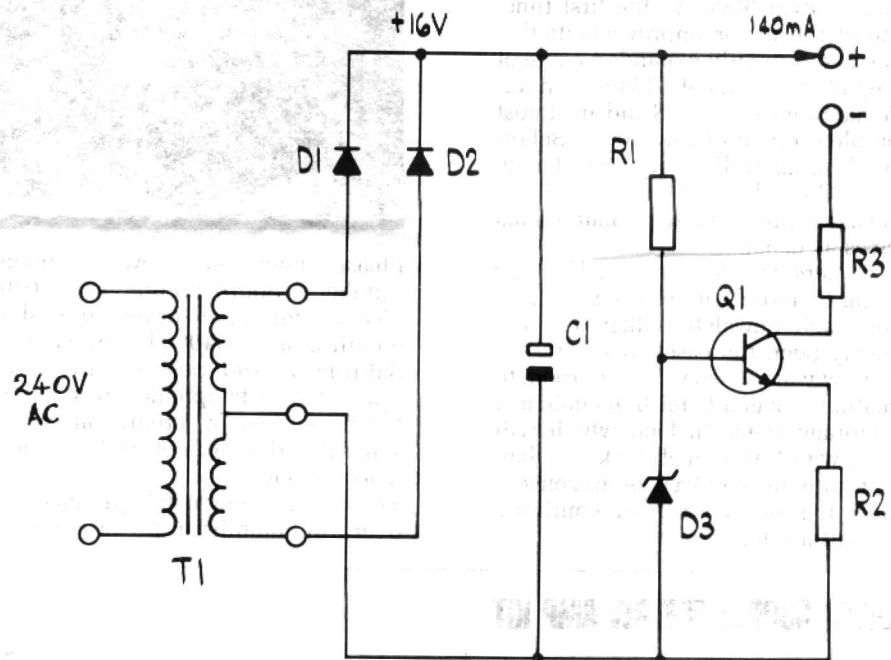
### CONSTANT CURRENT CHARGER FOR QUICK-CHARGE NICKEL-CADMIUM CELLS

Our nickel-cadmium cells have all the advantages of rechargeable cells, but unlike the usual types that take 16 hours to fully charge, our cells will be fully charged in just 6 hours. There are no disadvantages, even the price is good - only £1.25 each - so don't waste time with ordinary rechargeable cells any more; switch to our Quick Charge cells now!

You will need a special charger to recharge the cells and a circuit is shown below that will charge one, two, three or four cells. To charge one cell simply connect the positive terminal to the point marked + and negative to -. To charge more than one cell,

connect the cells in series between the + and - terminals. If you only ever intend to charge four cells at a time, you will not need a heatsink for Q1, but be careful - with a heatsink the + and - points may be short-circuited; without a heatsink Q1 will be destroyed if the + and - points are short-circuited. Also, if you only charge one or two cells at one time Q1 will need a heat-sink.

The circuit shown will fully charge up to four of our Quick Charge cells in six hours. The cells will not be affected if the charge continues for any length of time.



#### Parts List

R1 Min Res 2k7  
R2 Std Res 15Ω  
R3 1W Res 39Ω  
C1 Axial or PC Elect 470μF 16V  
D1,2 1N4001  
D3 BZY88C2V7  
Q1 BD131

T1 Min Tr 12V  
1 Kit T0126  
1 8W Hi-Fi Heatsink  
1 Thermopath Small  
1 Box PB301  
1 PP3 Clip  
1 6V Batt Box  
2m Min Mains

### ERRORS IN 1979/80 CATALOGUE

We regret that the following errors have occurred in the catalogue although they are shown correctly in the price list. Please amend your catalogue as follows:

Page 47 BF92A is a Tie-Wrap 140

Page 50 The length of the threaded spacer 6BA is 6.35mm. (1/4 in.) and not 4.76 mm. as stated.

Page 54 The order code for the metal detector shell should be XQ99H (not XQ85G).

Page 72 3 Watt W/W Min. Resistors. 270Ω is also a stock value.

Page 111 MP Crystal 2.5MHz. This crystal will be supplied with a frequency of 2.457600 MHz so that it may be divided by 2<sup>n</sup> to give standard transmission rates of 300 x 2<sup>n</sup>.

Page 112. The OV taps on the clock transformer are NOT internally commoned.

Page 133. The BC Adaptor should be marked 'Foreign'.

Page 145. The order code for the 50W Hi-Fi Heatsink should be HQ69A (not HQ68Y).

Page 173. The order code for the Plug Spanner should be YB94C (not YB67X).

Page 178. Drill stand: Second sentence should read - 'Lever on stand lowers drill for drilling operation; —.

Page 181. Aluminium solder is supplied in 1m packs.

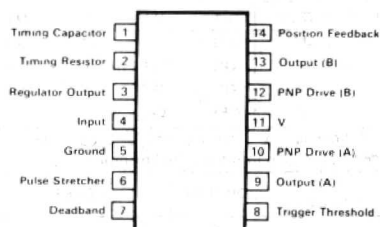
Page 193. The legend engraved on the stop tab BY09K is PRESETS CANCEL (not PRESET'S & D/B as stated).

Page 205. The order code for BZY88C24 should be QH23A (not QH22A).

Page 269 The order code for Train Controller Kit should be LW49D not LW44X.

## NE544 SERVO MOTOR DRIVER

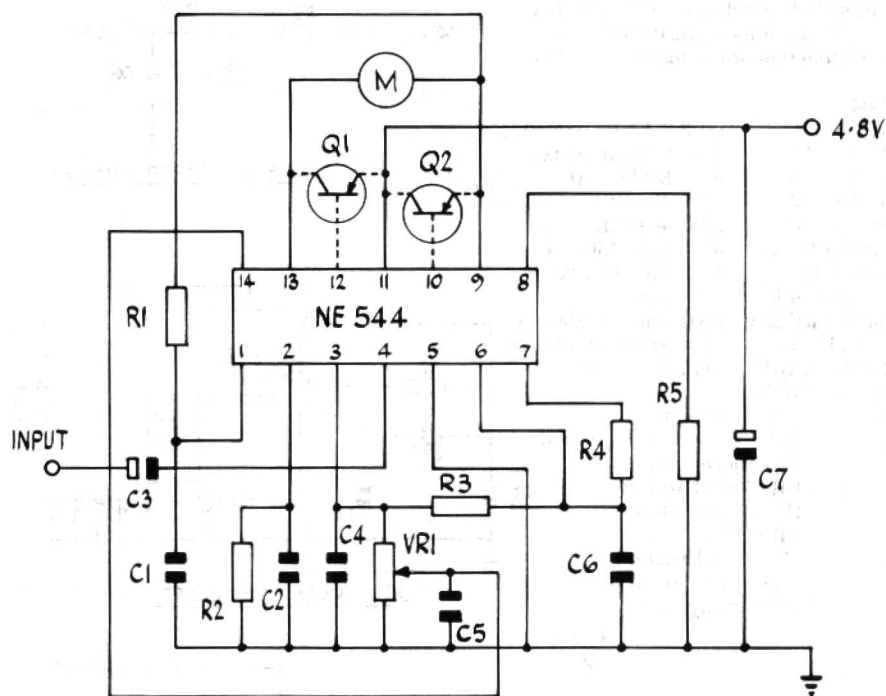
This useful integrated circuit is described on cat. page 247. The pin-out is shown below along with a typical application circuit.



### Parts List

- R1 Min Res 560k
- R2 Min Res 18k
- R3 Min Res 68k
- R4 Min Res 120
- R5 Min Res 220
- VR1 Pot Lin 4k7 linked to motor
- C1 Carbonate 0.1 $\mu$ F
- C2 Carbonate 0.1 $\mu$ F
- C3 Axial 2.2 $\mu$ F 63V
- C4 Carbonate 1 $\mu$ F
- C5 Carbonate 1 $\mu$ F
- C6 Carbonate 0.22 $\mu$ F
- C7 Axial 4.7 $\mu$ F 63V
- Q1,2 Any PNP transistors to give required current, e.g. BC461

The voltage should be obtained from three NiCad AA cells.



## NEW BOOKS



### Radio Stations Guide

by B. B. Babani & M. Jay

A listing of European Long Wave stations, European, Near East and North African Medium Wave stations, World Wide Short Wave stations, European FM/VHF stations, USA & Canadian stations, and UK local radio stations.

1978. 128 pages. 180 x 107mm.

Order As RQ58N (Book BP55) Price £1.55

### The Best of Creative Computing Vol. 1.

The first year of "Creative Computing" magazine edited into one book. Packed with information, articles, games etc.

1978. 330 pages. 280 x 220 mm. Illustrated.

Order As RQ60Q (Book Sybex R1)

Price £8.50

### The Best Of Creative Computing Vol. 2.

The second year of "Creative Computing" magazine edited into one book. Packed with information, articles, games etc.

1978. 330 pages. 280 x 220 mm. Illustrated.

Order As RQ61R (Book Sybex R2)

Price £8.50



### The Best Of Byte

An edited version of the first 12 issues of "Byte" magazine. 146 of the pages are devoted to hardware with how-to articles on everything from joysticks to cassette interfaces. 125 pages are devoted to software and applications ranging from on-line debuggers to games and even a complete small business accounting system.

1978. 386 pages. 280 x 220 mm. Illustrated.

Order As RQ62S (Book Sybex R3)

Price £10.99

### Questions And Answers Radio Repairs

by Les Lawry-Johns

Covers most types of radio set found in the U.K. and explains how to repair them in a practical way and without resorting to theory. The author describes from practical experience what does go wrong with radio sets, and describes how to find the fault and how to put it right.

1979. 96 pages. 165 x 111 mm. Illustrated.

Order As RQ59P (Book NB367) Price £1.60



### Artist And Computer

This unique book covers a multitude of computer uses and the very latest techniques in computer-generated art. Thirty five artists explain how the computer can be programmed either to actualise the artist's concept or to produce finished pieces.

1978. 121 pages. 280 x 220 mm.

Illustrated in colour.

Order As RQ63T (Book Sybex R5)

Price £4.69



### Some Common BASIC Programmes

by L. Poole and M. Borchers

Seventy-six common programmes written in a restricted version of standard BASIC and thus compatible with many micro-computers. Programme descriptions, examples and remarks accompany the listings.

1978. 208 pages. 276 x 212 mm.

Order As RQ64U (Book Sybex P10)

Price £6.99



## MM57160 STAC TIMER

Shown below are application circuits for this versatile IC. See our catalogue for details of switch functions. In the circuits shown the two points marked 'Note 1' are connected together for a mains operated clock.

### Parts List

- R1. Min Res 1M  
R2. Min Res 10M  
R3. Min Res 3k9  
R4. Min Res 4k7  
R5. Min Res 100k  
C1. Polyester 0.1μF  
C2. Ceramic 33pF  
C3. Trimmer 65pF  
C4. Axial 470μF 25V  
C5. Tant 1μF 35V  
C6. Polyester 0.1μF  
C7. Polyester 0.047μF  
SW 2 to 9. Click Switch  
SW10. Sub-Min Toggle A (if reqd.)  
1. DIL Socket 14-pin  
1. DIL Socket 16-pin  
1. DIL Socket 28-pin  
1. Kit P Plas  
1. 8W Hi-Fi Heatsink  
1. Thermpath Small  
2. DD Display Type C
- D1,2,3,4,5,6. 1N4001  
XL1. Crystal 50Hz x 2<sup>16</sup>  
IC1. MM57160  
IC2. 4060BE  
IC3. 4013BE  
IC4. μA78MGU1C  
T1. Min Tr 12V  
N1. Pan Neon  
FS1. Fuse 20 250mA  
and F/Holder 20  
SW1. Toggle Sw

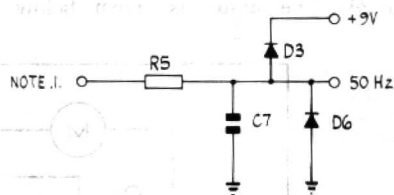


FIG. 2. MAINS CONTROLLED MM57160

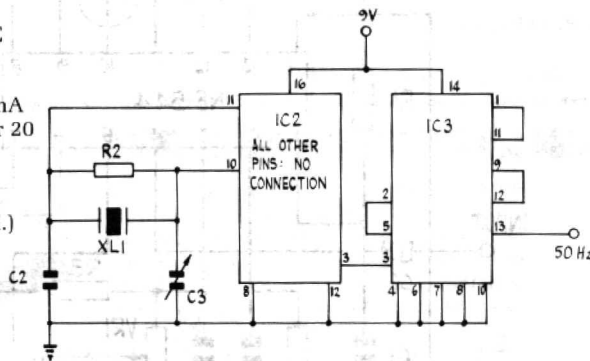


FIG. 1. CRYSTAL CONTROLLED MM57160

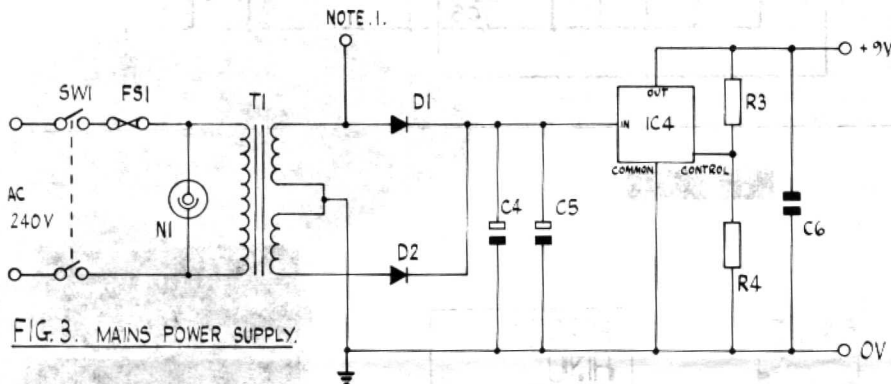


FIG. 3. MAINS POWER SUPPLY

### PROGRAMMING

For proper operation, the system must have 1 or more of its set point times loaded. To load (or program) set points, the DATA ENTRY key (5) must be depressed momentarily to take the system from the normal real-time clock mode to the data entry mode. Upon activation, 1 of the set point times will be displayed and its output status will be shown on the decimal points of the display. After power-up, this will be 00:00 and the decimal points will be off. To examine or go to another set point, the ADVANCE SET POINT key (6) is depressed in the data entry mode for each new time. The 4 values are held in a revolving stack (similar to a calculator stack) and each advance causes it to roll 1 position. Four advances returns to the original position.

To activate a set point, the hours and minutes will be loaded with the same SET HOURS (10) and SET MINUTES (9) keys used in setting the real-time clock. In addition the SET STATUS (8) key is activated and is used to load the output(s) to be activated at the programmed time. Depression of the SET STATUS key causes the 1st decimal point to turn on (which will correspond to output 1 turning on at run time). If this output is the only one to be used at this programmed time, one can go to the next set point by using the ADVANCE SET POINT key. If, however, the desired output is to be either output 2, 3 or 4, the SET STATUS key should be pressed again to advance to number 2, 3 or 4. Each advance turns off the previous decimal point. If a combination of outputs is desired (such as numbers 2 and 4), the HOLD STATUS key (2) is used to hold the number 2 decimal point on before the SET STATUS key advances through 3 to number 4. With the use of the HOLD STATUS key and the SET STATUS key, any combination of the 4 outputs can be programmed at each set point. If an error in programming occurs, using the SET STATUS key from position 4 will clear all data (including that set by the HOLD STATUS) and the proper information may be re-entered by following the proper sequence.

If conditions permit, the programming can be verified on the actual outputs by using the MANUAL key (1). This key, when depressed in the data entry mode, transfers the decimal point set-status data to the output latches; thus, the motor, solenoid, valve, or whatever is being controlled will be activated. When all 4 times

and their respective output conditions have been programmed, the system is returned to the real-time clock mode by another depression of the DATA ENTRY key. If the valid day information is not used, the system is ready to operate.

Depression of the DAY MODE key (7) enables setting and display of the current and valid day information. The current day is displayed in the left-most digit of the display and the validity of the day in the right-most digit with a "1" for a valid day, and "0" for an invalid "off" day. As the clock steps through the week, the programmed conditions occur on all valid days and do not occur on invalid days. The SET DAY key (10), when depressed in the day mode, advances to the next day upon each depression. The SET STATUS key (8), in the day mode, is used to change the validity information. Another depression of the DAY MODE key will return the system to the real-time clock mode.

Closure of the HOLD STATUS/DEMO key (2) will provide a means to rapidly cycle through the programmed sequence or set up an "in store" display. With this key closed in the real-time clock mode, time is advanced at the rate of 1 hour per second; thus, a 24-hour day requires 24 seconds to verify and a 7-day week requires less than 3 minutes.

Closing key 6 during the real-time clock mode (either normal or demo operation) will reset the clock time to zero without changing the set point timing but will reset the valid day information.

### EXTERNAL INPUTS

The MANUAL/REMOTE TRANSDUCER key (1), when depressed in the real-time clock mode, will override any time-related programming and immediately force output 1 on and 2 through 4 off. This condition will remain until the next valid set point time occurs.

### PROGRAMMING EXAMPLE

To illustrate the programming technique for STAC, assume the following conditions:

- Output 1 should turn on at 2:00 a.m., and turn off at 4:00 a.m. each valid day.
- Output 2 should turn off at 2:05 a.m. and turn back on at 4:00 a.m. each valid day.
- Output 3 should turn on at 2:00 a.m., and turn off at 2:05 a.m. each valid day.
- Output 4 should turn off at 3:01 a.m. and turn on at 4:00 a.m. each valid day.

5. Monday through Friday are valid days — Saturday and Sunday are invalid.

6. It is now Monday, the time is 1:00 a.m. Given these conditions, it is now advisable to construct an "output truth table":

TIME/OUTPUT	O1	O2	O3	O4
2:00 AM	ON	ON	ON	ON
2:05 AM	ON	OFF	OFF	ON
3:01 AM	ON	OFF	OFF	OFF
4:00 AM	OFF	ON	OFF	ON

The following key sequence may be used to load the preceding program into the STAC memory.

KEY DEPRESSED	DISPLAY	NOTES
	0000	Initial display
Data Entry	0000	
Set Hours	0100	
Set Hours	0200	
Set Status	0.200	Set point 1 at 2:00 a.m., output 1 ON
Hold Status	0.200	Hold output 1 ON
Set Status	0.2.00	Output 2 ON
Hold Status	0.2.00	Hold output 2 ON
Set Status	0.2.0.0	Output 2 ON, output 3 ON
Hold Status	0.2.0.0	Hold output 3 ON
Set Status	0.2.0.0	Output 4 ON
Advance Set Point	0000	
Set Hours	0100	
Set Hours	0200	
Set Minutes	0201	
Set Minutes	0202	
Set Minutes	0203	
Set Minutes	0204	
Set Minutes	0205	
Set Status	0.205	Set point 2 at 2:05 a.m., output 1 ON
Hold Status	0.205	Hold output 1 ON
Set Status	0.2.05	Output 2 ON
Set Status	0.2.0.5	Output 2 OFF, output 3 ON
Set Status	0.2.05.	Output 3 OFF, output 4 ON
Advance Set Point	0000	
Set Hours	0100	
Set Hours	0200	
Set Hours	0300	
Set Minutes	0301	
Set Status	0.301	Set point 3 at 3:01 a.m., output 1 ON
Advance Set Point	0000	
Set Hours	0100	
Set Hours	0200	
Set Hours	0300	
Set Hours	0400	
Set Status	0.400	Set point 4 at 4:00 a.m., output 1 ON
Set Status	04.00	Output 1 OFF, output 2 ON
Hold Status	04.00	Hold output 2 ON
Set Status	04.0.0	Output 2 ON, output 3 OFF
Set Status	04.00.	Output 3 OFF, output 4 ON
Data Entry	0000	Present time
Day Mode	1 1	Day 1, valid
Set Day	2 1	Day 2, valid
Set Day	3 1	Day 3, valid
Set Day	4 1	Day 4, valid
Set Day	5 1	Day 5, valid
Set Day	6 1	Day 6, valid
Set Status	6 0	Day 6, invalid
Set Day	7 1	Day 7, valid
Set Status	7 0	Day 7, invalid
Set Day	1 1	Return to current day
Demo	(Running)	Run thru at least one 24 hour cycle intermittently (use Hour & Minute keys to "nudge" display to set points) to verify output settings. After passing set point just prior to present time, release Demo key
Set Hours	0100	Present time

Programming of the STAC is now complete. The program will continue in 24-hour, 7-day cycle until manually altered.

## STEREO MIXER

Mr. Peter Cole the designer of this project has undertaken to assist would-be buyers. If you send your requirements for your mixer to us we will forward them to Mr. Cole and he will fill out a Mixer Schedule for you. You may subsequently use this form to order with. Please state your exact requirements for each module you want.

# Letters to the Editor

## Overseas Post Costs

Dear Sir,  
Just a few small suggestions which I should like to make in order to help improve your service.

(1). For overseas orders. Why not charge the postage as "at extra cost" instead of "at cost"? For example if for a given packet the cost in Great Britain for postage were £1.00 but to another European country were £2.00, you should really only charge £1.00 for postage as your prices are inclusive of postage in the British Isles. The amount of postage at present charged begins to make orders from overseas no longer economical for the customer.

(2). For overseas orders. Sending money to Maplin via a German bank means a charge of £1.25 — £1.50 just to purchase a cheque! This is not economical. Within Europe there is a bankers card and special cheques available which are called Eurocheques. In combination with the card, these cheques are guaranteed by the customers bank to a maximum of 300,-DM per cheque — approx. £75. Would it suffice for me to send a photocopy of my 1979 Eurocheque card and thereafter send you Eurocheques? The problem is that sending cash via the Post Office involves approx. a 2-week delay before you receive the money. Postal orders are not available in W. Germany.

(3). Your push switches seem to me to be, although very cheap, also of low quality. Would it not be possible to stock push switches of higher quality and with different colour buttons. E.g. red for stop, green for start etc.

(4). You should stock the LM 317 adjustable voltage regulators whose characteristics are in many cases better than fixed regulators and which since it is floating, sees only the difference between input and output voltages and not the actual values.

Hoping you find my suggestions of some value.

Yours sincerely,  
Terence P. Byrne,  
Aachen, W.Germany.

(1) We charge postage extra overseas to partly cover documentation costs. We have to subscribe to an expensive information service to give us all the latest customs requirements for every country in the world. We have to buy and stock all the dozens of different documents required, and every country needs different forms depending on weight, value and despatch method. And of course, the forms take extra time to fill in, which is the most expensive part of all. So I'm afraid we shall have to continue to charge postage extra.

(2) We can see from our new catalogue that we can now accept payment by Eurocard. We have always been able to accept payment by Eurocheque.

(3) Please see our new range of Click Switches and covers offering high quality at excellent prices.

(4) Try our new range of variable voltage regulators shown on page 251. The  $\mu A78G$  UIC is similar to the LM 317.

## Same Day Service

Dear Sir,  
I would like to point out to Mr. Simon Aglinsky of Ayr, that the service offered by Maplin is same day service and that if (as is usual) the G.P.O. has to be used, the very minimum delay is 4 days, from posting the letter to receiving the completed order. If Mr. Aglinsky is complaining about this, I suggest he contacts the G.P.O., I have been a customer for several years, and I cannot think of anywhere I could have better service, certainly NOT at my local Electronics shop! Yes Maplin, carry on the good work.

Yours Sincerely,  
Mr. L. I. Gregory, Hadfield, Cheshire.

## Clock Radio Hums A Bit

Dear Sir,  
I made your Maplin Alarm Clock-Radio kit about six months ago and have found it to be excellent. It was easily constructed in an evening and looks really good in the Michron case. I thoroughly recommend it to anyone who is looking for a quality clock at a reasonable price.

It's accuracy is as good as can be expected with synchronous time-keeping (any chance of a quartz conversion kit?), but my only real criticism is that when controlling a transistor radio, the radio speaker emits a quiet but irritating 50 Hz hum, regardless of the adjustment of the volume control, when the clock has (supposedly) switched off.

Can you please suggest a way of removing this annoyance?

Yours faithfully,  
C. Nelms, Elstead, Surrey.

The most likely cause of this fault is D1 connected the wrong way round or something wrong e.g. a short circuit somewhere around D1 and TR4. If correctly connected this hum cannot occur.

## Better Service?

Dear Sirs,  
Having received your newsletters for some 12 months now I have just read the September issue which has finally moved me to write to you.

Some of the letters of complaint and suggestions for "A better service" have often made me smile. It is obvious that most of these letters come from boffins rather than business people.

May I say that in my opinion you offer probably the best service of any mail order electronics firm and it would appear the largest range of components. I don't envy you your headaches.

What the complainers don't realise is that the very nature of your service makes you more vulnerable than usual to the apathy of suppliers and manufacturers today. I am afraid it has become a vicious circle.

I know that this is no solace for those frustrated by shortages but you complainers have a heart, there is more to the problem than meets the eye.

Thanks for the service Maplin and keep up the struggle, you never know one day you may please all of the people all of the time!

Yours faithfully,  
M. W. Howe,  
Sunderland,  
Tyne & Wear.

It is quite true to say that if we held every order for a week before we despatched it, the number of orders with one or more items out of stock would be dramatically reduced.

## 50W Hi-Fi Amp

Dear Editor,  
I would first of all like to congratulate you on an excellent and speedy service.

Regarding your 50 Watt Hi-Fi power amp. I built this using the correct stated components including the resistors. But when I was just the preset to 20 ma I found that the total quiescent current obtainable was 4 ma. On assuming that the 5% tolerance on the resistors was the cause of this I connected a pot, instead of R11 to the board. Altering this in conjunction with the preset, I set the pots to read 20 ma. Apart from this the amp gives supreme quality and I found it easy to assemble. A beginner could make it and make it work.

Yours sincerely,  
Carl Birkenhead,  
(age 14),  
Cheadle Hulme,  
Cheshire.

This fault is almost certainly caused by R13 being the wrong value. The original parts list showed this resistor to be 120 $\Omega$ , but it should be 820 $\Omega$ .

## Louder Alarm

Dear Sir,  
I've recently purchased and constructed your digital alarm clock with the radio switching facility, and although I find it most satisfactory in most respects, I'm a little disappointed with the actual noise the alarm makes. Therefore I wonder if you could tell me if there is any way to increase the volume of the alarm as I find it insufficient to wake me in the morning. I would be grateful if you could let me know of any modification which could be made in this respect or publish the details in your next newsletter.

I am extremely pleased with your catalogue and I'm looking forward to your '79/'80 edition. I'm also looking forward to seeing you at "Breadboard", next weekend, especially your disco section. Finally, rather than go into pages of compliments about your service, I would just like to echo all the good things that have been said in the past newsletters. Many thanks and keep it up.

Yours sincerely,  
Jonathan Sweetman,  
Marlow, Bucks.

Sorry, but there is no way you can increase the volume of the alarm through the speaker in the clock. However you could connect a wire from the non-earthly side of the speaker to the wiper of the volume control on your radio, then when the clock switched the radio on, the alarm would sound both from the clock and superimposed on the radio sound, from the radio as well, with maximum volume obtainable probably very loud indeed.

## Spacesound Cabinet

Dear Sir,  
Please will you publish this letter in your next newsletter? I have two empty cabinets, of Wurltizer origin, which would make ideal housings for the Spacesound 'Leslie' system. They are indistinguishable in appearance to the Leslie 145. I would like £50 each for them, but this is negotiable.

Yours faithfully,  
S. Sheppard,  
156 Charterlands Ave.,  
Hull, E. Yorks.

## Timer Looks Ugly

Dear Editor,  
I read with some amusement the letters complaining of poor service. Considering the multiplicity of items you offer you are to be congratulated if you can hold 95% in stock.

Before the days of Maplin I used to have to write to or go to a number of shops to obtain all the articles I needed to complete a project.

I wonder if any of the complainers could run the service you provide as good as you do. Perhaps an Open University T100 course would enlighten them to the complexities of your business involving large storage and throughput.

I was very interested in the period timer you have recently produced. I would have liked one or two as an alarm clock and for making O.U. recordings. But Oh! dear, it does look ugly with the two mains sockets on top. Something I would not put in the living room among the Hi Fi equipment. Could you not have installed the sockets at the rear?

If you must have something on top of the cabinet, then it would have been better to have the switches on the top. Much easier to operate when first waking up in the morning.

Yours sincerely,  
B. W. Hepburn  
Pennar, Dyfed.

We put the sockets on the top because frankly the box looked ugly with them on the back. Without making the box too big, putting the sockets on the back meant making the box higher and this made the front look squat and the plugs in. A thick mains lead would lift the back of the box unless the socket was a long way above the shelf, making the front look even worse, and when pushing the plugs in there was nothing to push against except the front panel which quickly became finger-marked and grubby. Putting the sockets on top was a practical solution to the problem and I personally think it looks very attractive (see page 22 of new cat.) with the silvered socket.

## Photosensitive Lacquer

Dear Sirs,  
A word of thanks to your staff for providing a prompt and generally satisfactory service.

I usually construct my own PCB's (I am sure a fair proportion of other readers do to) and in this respect I think the inclusion of photosensitive lacquer into your stock would be a welcome addition.

So, how about it then?

Awaiting your comments with interest.

J. W. Stepien,  
Stevenage, Herts.

This sounds an excellent idea and we shall look into the practicalities of it.

## Back-Order System

Dear Sir,  
I have been prompted to write to you before, but this is the first time I have actually got pen to paper.

The stimulus for this effort is Mr. P. Shoebridges letter in the September news sheet.

He suggested that when ordering, we should have the option of either, having an 'out of stock' item sent on at a later date or having a credit note. I wholeheartedly concur with this idea, and feel that it will alleviate a problem that obviously can't be eradicated, to wit, stock control. In conclusion, may I say that I think Maplin are without question the best Mail-Order firm. I have dealt with, and that my order for your new catalogue was in the post the same day I bought P.E.

Yours faithfully,  
John D. Ritchie,  
R.A.F. Kinloss,  
Scotland.

## Synth Osc Problems

Dear Sir,  
Some time ago I built a set of oscillators for the 4600 synthesiser, but found, on completion, that a 2MHz sine wave was superimposed on the ramp output. I traced the trouble to some kind of parasitic oscillation in the solid state switches used. I have totally failed to cure this and after further experimentation have found that almost all applications of solid state switches feeding operational amplifier inputs suffer from it.

Please print this in your newsletter as I would like to know if anyone else has had the same trouble and if so, whether they can suggest a cure.

Yours faithfully,  
Phillip L. Watson, Bromham, Bedford.

We have built about 30 of these oscillators over the past few years and have never had this problem. Since we always run them on a 'scope for an hour or more to check their stability we are quite certain we would have noticed. The only thing we can think of is that there may be some

oscillation in the power supply which is getting through to the signal lines at certain points, but we are quite certain that normally solid state switches feeding op-amps do not suffer from hf oscillations.

## Period Timer Problems

Dear Sir,  
Having dealt with you for several years and during that time had quick and reliable service I would like to make a few comments through the medium of your "Letters to the Editor" column.

I have just completed the "Period Timer" as advertised in your latest sheet and this is where the first confusion arises. You give the list of parts and then the kit price, below this is the double socket outlet and price. Assuming that this was also required I ordered some and imagine my surprise when I end up with two. If these two items were transposed on the sheet this would not have happened.

Secondly on completion of the kit the assembly of the outer case was prevented by the same socket coming into contact with the mains transformer. By lowering the transformer by 5/16 ins. on the rear panel this was rectified.

Thirdly the P.C.B. came dangerously close to the chassis, rectified by placing a sheet of 3/16 ins. S.R.B.P. under P.C.B. I hope these incidents will help other would be builders, should you publish them, so they will inevitably possess a very versatile neat little timer.

Yours faithfully,  
R. Haslehurst,  
Northwich, Cheshire.

P.S. May I return extra socket and be credited?

Sorry we confused you over the socket, though we did say it was a "complete kit" and it would hardly be complete without the socket. However in all cases where there is an understandable reason for the error, we would always take the item back for refund.

We designed the unit using MK sockets, which regrettably were not available when we came to buy a quantity, so we switched to MEM which appeared identical, but apparently is slightly thicker. On the next batch of cases we will have the transformer fixing holes punched lower, and also punch a fixing point for the rear of the pcb.

## Back-Order System

Dear Sir,  
Having suffered from out of stock items like everyone else, I totally agree with Master Shoebridges comments in the Sept. newsletter. Having the choice of receiving credit or having goods sent on is a grand idea. Writing consistently to you to find if the new stocks are in, wastes your time and our money — inevitably we pay for the reply paid envelopes. It would make the order form more complex but then your photostat copies always make it clear what is happening to individual items — a fantastic system. I wish other firms could be as thorough.

I am afraid I am another person who could use DIL switches — have you tried holding a test probe in one hand while switching a stiff toggle switch, that won't stay still, in the other.

I look forward to the new catalogue; late, but bound to be worth it. I hope to get into hobby computing with the new lines. I'd love to hear from any SC/MP 11 users!!

Yours faithfully,  
M. Hancock,  
22 Riverside Crescent,  
Newquay, Cornwall.

We shall be stocking DIL switches in the near future, since we have received a number of requests for them as well as yours.

I regret to say that we think a back order system would be impractical. Using the figures in our answer to Mr. Aglinsky's letter in Sept. '78 newsletter, by the end of a week we could have about 1600 back orders for about a 100 different lines. If one item then came into stock we would have to sort through every order to find who wanted that item. We would have to do this every time an item came back into stock and if an item were out for a month there would be over 7000 orders to check through. Even if it only took 10 seconds to check each order that's still 3 days work for one person. And remember dozens of items come back into stock on some days. It's immediately obvious that the system would be wildly uneconomical. Alternately one could copy out the name and address and file each name behind a card for each out of stock item, but even this would take a long time and lead to the ridiculous situation where several out of stock items coming into stock on the same day are all despatched individually to the same person. It seems to us that we could only make the system work reliably and economically if we had a computer to sort the files for us, but unfortunately we don't have a computer.



# Letters to the Editor

## Mixer

Dear Sir,  
I have been a customer of Maplin for some five years now, having sent some 60 orders totalling many hundreds of pounds. I have been pleased with your service, although a few recent parcels have arrived a day or two late.

Although some of your correspondents report the contrary, I have had fewer "out of stock" remarks on my orders compared with a few years ago. If my records are correct, "out of stock" notes were returned with my first fourteen orders! Things really have improved! Further, out of the thousands of components purchased, only three were returned as unsatisfactory which is a great credit indeed.

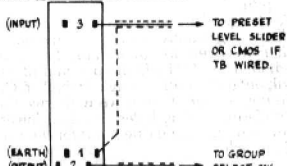
I am writing mainly to raise a few points on the AUDIO MIXER project which I have been engrossed in for some months:

(1) CMOS BOARD. There is a mistake on the print: the junction of R1 and R3 is not joined to its respective end of VR1. May I, at this juncture voice my general dissatisfaction with the layout of this board. The input/output connections are very cramped and difficult to wire neatly and reliably.

(2) MODULE FRONT PANELS I was disappointed to find that all switch/LED holes are punched out regardless of whether they are required or not. This necessitates the use of hole plugs spoiling an otherwise excellent appearance. Also, I have large gaps between front panels: could you stock a decorative trim to cover these? This would indicate clear separation of channels too.

(3) EARTHING I have found it necessary to remove the connection from the central earth point to the main and foldback output lead screens instead. The resultant hum is then very low. It cannot be overstressed how important it is to take care with earthing.

(4) MIXER SLIDE LOG 10K The wiring of these is not the same as those in the catalogue. It is as follows:



Note that the lower pins are reversed with respect to standard sliders.

(5) PSU CIRCUIT the value of 620R for R9 does not make the bulbs very bright! I have used 220R for more lumens.

(6) MORE ON PSU R7, R8, ZD2, ZD3 get very hot. Whilst in theory they are operating within their limits, I have up rated them for safety. If zener went open circuit, one would have a bill for roasted CMOS chips!

(7) GROUP MIX MODULE The bulk of cable leaving this module is enormous and fouls the boards, working them loose. Could "cable twin" not be used, just for this module?

A few hints for other constructors:  
Use at least a dozen solder tags on the central earth point to take all the wires.

Avoid using 22k log/antilog pots for the balance controls thinking they are better. As I found out, they are not — the volume is uneven over the sound stage.

Use plenty of glue when fixing the VU meters. Avoid Bostick, Evostick etc. as these ooze — cyanoacrylate is better. One of the smaller prices of the transformer should face the chassis with a larger face against the screen. Reversal of this orientation causes hum.

Well that's the lot! Other than these points, the mixer offers excellent performance, has superb appearance (ignoring the hole plugs and gaps!) and is very enjoyable to construct (important for a project this size). The PCB's are first class, by the way. I visited your shop recently but found that the mixer was not a working unit, just the case on display. Have you had problems? Thanks for your impeccable service over the years.

Yours faithfully,  
S. P. Canning  
Salisbury, Wilts.

(2) You could fill the gaps in the front panel by squeezing Cable Single into the gaps. You can either use the whole cable or just the sheath depending on the width of the gap. If you want it to stand out, use the white cable. Surprisingly it is extremely effective and looks very attractive.

(7) You could use cable twin, but this will certainly be noisy if the cables move in use.

We do now have a working model of the mixer in the shop. The reason we took so long to get one was that we wanted a full 16-channel version and this takes a fairly long time to build. In addition we gave the construction job to a contractor and he took an inordinate length of time to complete it.

## Bulgin Quality

Dear Sir,  
I would refer to your June, 1978 paper and specifically to your comments on our battery holders.

I may say that "we are not very impressed" by your comments. Obviously you are at liberty to make your own judgement and comments but—

(a) Large. Battery holder size is basically determined by battery size.

(b) Old Fashioned.

Obviously a matter of opinion. However as they are of fairly recent design and use up to date materials and production methods I would question the fairness of your comment.

(c) Very expensive. Again a matter of opinion. We feel we offer good quality items at reasonable prices. Lastly, you could have advised your customer that we produce HP7 holders for one, two or three cells.

Yours faithfully,  
Brian E. Mallet,  
Marketing Director,  
A. F. BULGIN & CO. LTD.  
Barking, Essex.

It is nice to see one of the big manufacturers taking an interest in our hobby, as so many are apathetic. We do of course stock many of Messrs Bulgin's components and they are all very high quality. However with regard to battery holders — (a) Large: The Bulgin battery holders would take up more space than the holders we sell for the same number of batteries. (b) Old Fashioned: We think they have a functional and not very attractive appearance which tends to give one the feeling that they have an old-fashioned look about them, but we would have to agree that this is very much a matter of opinion. (c) Very expensive: The price of the Bulgin holder for one HP7 battery is 98p plus VAT, the price of our holder for four HP7 batteries is 17p including VAT. It would be cheaper therefore to bend some pieces of aluminium to use as dummy batteries if you wanted to use our holder to house less than four batteries.

## Errors, Errors, Errors

Dear Editor,  
I have recently ordered two separate lots of components from Maplin Electronic Supplies, each totalling a value of around £8. Both had components missing which were of vital importance and both were due to errors occurring during packing. Although the components supplied were of a reasonably high standard I find it difficult to accept these errors as standard.

Yours faithfully,  
M. G. Daft,  
Mapperley, Nottingham.

Our error rate is around 0.25% or roughly one in every 400 different items collected. The average £8 order contains about 15 different items, so you should only expect one order in 25 to have an error. Of course probably no-one is average - in order for the average to be average there will be people who never see an error in their orders and some who see one error after another.

We naturally are not complacent about errors, since they cost us a lot of money as well as upsetting customers, which is hardly the way to keep their business. The costs arise because we invariably pay two extra lots of postage and pay someone to do again that part of the order that was wrong before. Effectively the cost to us of that order is more than doubled, frequently wiping out any profit we would otherwise have made. We have tried different methods of collecting and packing over the years; we have had different staff, but always we seem to come back to that average error rate. In mitigation all I can say is that at least with our service it costs you only the inconvenience.

## 6/7.5/9V Supply Improved

Dear Sir,  
May I suggest a possible improvement to the mains version of the circuit of your 6/7.5/9v supply, set forth in your catalogue?

As things stand, the design works splendidly, but when switched off, there is an upward kick of voltage in the output, due to the removal of forward bias from TR2, thus turning TR1 on, and allowing a surge of current through TR1 to the output. (This current comes from C3, which, of course, is fully charged at the moment of switch-off).

The remedy, which I have applied successfully, seems to be to connect the "off" pin and the 6v pin together, in SW1b. This retains bias on TR2 as long as C3 is charged, and there is no surge when the unit is switched off.

Yours faithfully,  
H. Padmore,  
Blackpool, Lancs.

We shall make a point of incorporating Mr. Padmore's very neat solution to this design fault which he has found, when we reprint the article in a leaflet.

## Microprocessors

Dear Sir,  
I am not sure that I am writing to the correct publication as my train of thought was originally triggered off by an article in the 'Practical Electronics' "Microbus" series. However, since Mr. J. Marten inquired about Microprocessor chips in the June newsletter, here goes:  
Several months ago I was sure I could use a Motorola 6800 D2 kit for all sorts of things, so having saved up the necessary cash I bought one and spent hours for the first month, or so, getting to know it. Having fairly mastered the art of machine language programming I began to look around for 'externals' to connect it up to. It was only then that I was struck by the complete absence in my home of model railway sets, suitable central heating units, solar heating, varicap tuners, etc. Moreover after a quick look at the prices of such things as A to D converters, 6840 PTM chips and extra RAM, I could see that it was possible to spend another £100 without a moments hesitation. As to the use of these machines for games, the possibilities with Hex keyboard type kits are fairly limited, even with expensive peripherals. I have written many games programmes in BASIC for RML 380 Z with VDU and can say that this is quite rewarding for a time but possibilities are surprisingly soon exhausted.

I would, in the light of this experience, offer your readers the following rule of thumb: If the unit is really to work for its living then be prepared to pay at least half the cost of the unit again on peripherals. As for the idea of using these kits to develop small, dedicated systems, most of the applications which will occur to the amateur prove, on closer examination, to be fantastically uneconomical both in time and money.

This leads me to suggest that if some peripheral support devices for common micros were available from you, system costs could be reduced, possibly substantially, as you manage to supply most things for a bit less than other distributors.

May I suggest:-  
MC68 10 Memory IC  
MC68 20 PIA  
MC6840 PTM  
An 8 or 12 bit A to D converter chip.  
A sample & hold chip.  
26 SWG solder  
7.05 ins. x 17.9 ins. 0.1 Matrix Veroboard.  
Keypad switches and caps.  
To conclude, thank you for an excellent service.

Yours faithfully,  
Philip L. Watson,  
Bromham, Bedford.

You will find most of the items you mention or equivalents of them in our new catalogue. The LH0042C chip can be used to make an excellent sample and hold circuit, 26swg solder we've never heard of, and we don't sell the long Veroboards by mail-order because to pack them so that they didn't get broken would make them extremely expensive. However we do stock them in our shop.

## Overseas Documents

Dear Sir,  
I have been dealing with M.E.S. for over a year and I am very pleased and satisfied in every respect except ONE. To stress my point I shall quote the last paragraph of a letter of June last which explains my complaint. Quote "so taking your motto 'Fast Efficient Service' I congratulate you on your fast service but I would question the efficient service part" unquote.

It is my policy to send a letter with every order and in each one always mention that I always need an invoice duly signed and stamped which is indispensable for customs purposes. Most of the times I do not get one and I am obliged to send reminders. This procedure not only entails delay in clearing the goods but I am also obliged to pay extra charges for storage.

The last incident was when I received my 2 orders no. 59683 which were sent on 7/7 and the goods arrived on the 19th. The various documents arrived under separate cover on the 16th WITHOUT INVOICES. I wrote back immediately asking for invoices which I received on 3/8/78 but they were not signed and stamped and the airmail expenses were not shown on them. In other words they are useless to me. How is that for EFFICIENCY?

Yours faithfully,  
Michael Paraskevopoulos,  
Limassol, Cyprus.

Since we never sign or stamp invoices, we can only assume you are referring to movement certificates, which doubtless is where the confusion has arisen. In general though, please don't write covering letters, just write in large letters on the order form your instructions e.g. SEND INVOICES, SEND MOVEMENT CERTIFICATES etc. Don't forget that we deal mainly with private individuals, so we may not notice that you are a company and therefore require additional documentation, so you will need to state your requirements as I have indicated above.

## Parts Missing — Nuts!

Dear Sir,  
Having waited a week for some components I ordered from Maplin I checked them on arrival to find:

a) 2 x 470K resistors supplied instead of 470R ordered.

b) No spindle nut or washer for a 4 pole miniature toggle switch. I informed Maplin of their errors on 4th October 1978, by letter, at time of writing, (9th October) the mistakes are uncorrected.

Frankly I find your practice of supplying spindle nut and washers separate from rotary controls (including pots, switches etc.) very dangerous, as, in my case, insufficient were supplied.

If your suppliers supply these items separately insist that they "supply complete (i.e. with nut, plain washer and locking washer)" — I had this problem a couple of years ago: I authorised the "buyers" to "insist or change the supplier!" — you then only get one item on the inventory not four.

Next it will be control knobs without grub screws!

Yours faithfully,  
M. J. Breakspear,  
Swindon, Wiltshire.

Unfortunately we received a batch of 20,000 470K resistors around October time amongst which was a liberal sprinkling of 470Ω. Our apologies to everyone who received the wrong resistors. It took us 5 hours to sort through all the resistors and pick out the wrong ones. We nearly always manage to rectify errors on the day we receive notification and it is quite likely that we did in this case also, since there was a weekend between the 4th and the 9th and if either we or Mr. Breakspear posted late in the day, the letter may not have reached its destination within 24 hours.

In general, electronics enthusiasts are able to buy parts cheaply, because manufacturers buy millions of them and thus they are cheap to produce. A manufacturer does not want to have waste time undoing the nut before he can mount a control or switch so he wants to buy with nuts separate. And in this industry what the manufacturers want is what everybody gets - unless you pay more of course.

## MES 53 Problems

Dear Editor,  
Some M.E.S. 53 organ constructors may have experienced difficulties with the delayed tremulant, as I have done. Briefly, indications were:- tremolo permanently on; tests indicated TR1 permanently on. Voltage readings between 0v line & point Q were -3 volts with keys normal, & -6 volts with key down. Substituting IC11(741) with several spares I had available, indicated that pin 6 output voltage varied with different chips, usually showing negative volts, but this point must be more positive than TR1's emitter (-1v).

Incidentally can you give any estimate of the number of M.E.S. 53 in production — by assessing your circuit board sales? It would be interesting to know the popularity of this project, with a view to establishing a mailing list for interchange of ideas.

Here's hoping for the "GIMMICKS" you keep promising!

Yours faithfully,  
Eric Guiseley,  
Tranmere Park, Leeds.

This fault is almost certainly caused by D40 being inserted the wrong way round, or being short-circuit, or short-circuited by something. We estimate the number of MES 53's built or being built at around 1,000.

## Organ Builders Club

Dear Sir,  
First of all may I add my congratulations to the many you receive on the fantastic service you give and somehow you have managed to get the P.O. motivated to give the same sort of service.

With reference to the newsletter September 1978 and the cry for help from Mr. J. E. Shepherd with his MES organ, I have written to him suggesting that he joins the Electronic Organ Constructors Society whose members hold regular meetings throughout the Country, issue a technical magazine on organ matters and have at least 40 members constructing the MES organ. Their names and addresses appear in a special "Maplin Corner" together with problems and answers.

The membership secretary is

Mr. Ralph Purdy,  
11 The Avenue,  
Station Road,  
Billericay,  
Essex.

Carry on the good work,

Yours faithfully,  
A. G. Groves,  
Hazlemere, High Wycombe,  
Bucks.

# Letters to the Editor

## Never-Never Piano

Dear Sir,  
Over the past year I have been eagerly awaiting the development of the only electronic pianoforte, available at reasonable cost, at present on the market. Yet for the past few months all I have seen in the newsletter has been "see next newsletter for details". I mean, you could alter it a bit. How about "see next year for details" or "see next Halley's comet for guidance". And as for MES22, "available at the end of July" I don't know how you dare. I haven't seen any other letter about this so I must conclude I am the only person interested in having a real electronic pianoforte. I mustn't cast too much mud, as you lot are the only ones showing willing to develop the circuit.

Yours expectantly,  
Brian Fields,  
Stockport, Cheshire.

You may like to know that we are only one of many who are fed up with us for not producing this leaflet. We even believed ourselves that the leaflet would be out in July and we are now wildly overstocked with some of the parts for the project. I'm pleased to say that by the time you read this the piano leaflet should be on the presses and ready for despatching in just a few days.

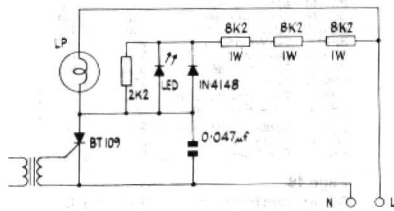
## Going Going Gone!

Dear Sir,  
I would first of all like to thank you for publishing my earlier letter in your news sheet. There was an overwhelming response to my sale of an ET1 4600 synthesiser, and needless to say, it has been sold. I would be grateful there fore if you would publish this fact so as to avoid disappointment for those who may be thinking of writing to me.

With thanks in anticipation.  
Yours faithfully,  
M. Lamb,  
Scarborough, N.Yorks.

## Light Unit Mod

Dear Sirs,  
Having just read the September newsletter that I received with my order I noticed Mr. P. Shoebridge had a problem with the sound-to-light unit. Having had the same problem when I recently constructed this project I would like to suggest the following modification which will allow the unit to function correctly. The triac circuitry should be changed to:-



For those who have already built the unit this modification can be implemented easily by cutting the track between D10 Anode and R37, linking D10 Anode to SCR2 Anode track and linking the now unconnected end of R7 to D10 Cathode. The treble & bass sections being modified in a similar manner. D10, D6 & D16 may of course remain as IN4004 although their voltage rating is not needed now.

I hope this may be of use to yourselves and other customers who are having difficulty with this otherwise excellent project. I would appreciate any comments you may have on these points.

Yours faithfully,  
Anthony Rowell,  
Bedford.

We havn't tried this circuit, but we'd be interested to hear from anyone who does try it.

## Longer Keyboards

Dear Sir,  
First a complaint — when my newsletter arrives each quarter it arrives about the third week in the month but the period for the special offer coupon begins some three weeks earlier — I appreciate the problems in getting newsletters out on time so why not shift the dates on the special offer coupons so they start at the beginning of the next month?

Secondly a technical query: I am interested in building your touch-sensitive piano since I live in a flat and with it I could, using earphones, play the piano whenever I wanted without disturbing the neighbours. However I note that your keyboards are only 4 or 5 octaves C to C, whereas to play anything from Chopin to Scott Joplin inclusive I would need something like 6 octaves, A to A. Would it be possible to take two 4 octave keyboards and, with the aid of some carpentry produce a 6-octave keyboard C to C, or even A to A?

Yours sincerely,  
W. A. Ledger,  
Cardiff.

Firstly the newsletters are intended to reach you shortly after the middle of the month and the special offers are always open until about two weeks after the next newsletter reaches you. We usually state an early closing date so that orders from abroad have a chance to reach us if posted on that date, before we actually close the offer.

We have been looking for an 88-note keyboard with simulated piano action at a reasonable price for some years without success. Although you could modify our keyboards in the way you suggest and add the extra electronics, you would also need to substantially alter the voicing to cater for the extended frequency range.

## Synth Parts For Sale

Dear Sir,  
Having spent the past 3 years building various projects of yours including the MES, 51 & 4600 synthesisers etc. with parts from your good selves. I now find that I have to close my unfinished projects as I have been offered a position abroad. I therefore have for sale the following equipment which I hope another of your readers will be able to use or complete. i.e.:-

Keyboards,  
Patch boards,  
Controllers,  
P.C. Boards etc.

+ many new unused components for these projects. I'm prepared to sell separately or all-together. Please contact: S. WALE at the address below & enclose a S.A.E. for lists.

Yours faithfully,  
S. Wale,  
16 Craven Gardens,  
Wimbledon, London SW19.

If you would like to air your views about anything to do with electronics, or ask us a question, or perhaps there's something you think another reader may be able to help you with — then write to 'The Editor', Maplin Electronic Supplies, P.O. Box 3, Rayleigh, Essex.

Please do not enclose sae's as the editor cannot enter into personal correspondence, but will do his best to answer your questions if your letter is selected. All the letters are read by the directors even if they are not printed. We should like to thank all those people who write in praise of our service, we really do appreciate your having taken the time and trouble.

Please try to keep your letters short and to the point, and please write neatly, our printers are going grey trying to typeset some of the letters: they are almost indecipherable.

# PRICE LIST

All prices shown in this list are valid from January 22nd 1979 to March 9th 1979.

Prices shown in this list are VAT inclusive prices. The second column in the ruled box shows the amount of VAT actually being charged. Overseas customers should deduct this amount from the inclusive price to arrive at the cost to them. Inland customers using our order forms should use VAT inclusive prices only.

All prices are for the unit quantity shown in the catalogue (unless shown otherwise on this list) i.e. each, per pack, per metre etc. All prices include postage and packing. There is a 20p handling charge which must be paid on all orders having a total value of under £2.00

The price list is intended for use with our 1979/80 catalogue and

Prices charged will be those ruling on the day of despatch.

1979/80 Catalogue Page No.	VAT inclusive PRICE	1979/80 Catalogue Page No.	VAT inclusive PRICE	1979/80 Catalogue Page No.	VAT inclusive PRICE	1979/80 Catalogue Page No.	VAT inclusive PRICE
<b>Page 10</b>		<b>Page 14</b>		<b>Page 15</b>		<b>Page 23</b>	
BR45Y AS 341s	31p	BB62S Synth Output Stage Bkt	£1.03 7½p	LW06G Mixer Mtlw Kit No. 2	£6.48 48p	XH24B Leaflet MES 15	15p
BR88V Mk/Space Adptr Kit	£2.94	HY14Q String Ensemble 1 PCB	£2.90 32p	LW10L Mixer Metalwork Kit No. 3	£8.74 64½p	XH25C Leaflet MES 17	15p
BB00A Divider Board 'A'	£2.33	HY15R String Ensemble 2 PCB	£2.54 28p	LR18U Mic Mod Front Panel	£1.26 9p	BB74R Car PSU PCB	99p
BB01B Divider Board 'B'	£2.10	HY22Y String Ensemble 3 PCB	£2.05 23p	LR11M Mono GP Front Panel	£1.26 9p		
BB02C Tone Board 'A'	£1.99	HY23A String Ensemble 4 PCB	£2.56 28½p	LR12N Stereo GP Front Panel	£1.26 9p	<b>Page 23</b>	
BB03D Tone Board 'B'	£1.80	XH17T Leaflet MES 14	Free	LR17T Cart/Hi-Z Front Panel	£1.26 9p	XH26D Leaflet MES 71	30p
BB07H Control Board 'A'	£3.15	XG/8K 4600 Front Panel	£9.80 72½p	LR39N Mixer Bus Mtg Plate	48p	BB82D Keyboard PCB	NYA
BB08J Control Board 'B'	£1.50	XB08J Synth Rear Panel	£1.30 9½p	LR32K Mixer Bus Securer	33p	BB83C VDU Mother Board	NYA
BB09K Sawtooth Board 'A'	£2.54	XF10L ET1 Top Project No. 5	£1.25 9½p	LR43W Mixer Module Chassis	£2.98 22p	BB84F UART PCB	NYA
BB10L Sawtooth Board 'B'	£3.19	BB76H Touch Organ PCB	£4.95 55p	LR38R Mixer Amp Mtg Plate	44p	BB85G Control PROM PCB	NYA
BB77J Divider MO & Freq Gen	NYA	XB79L 4600 Cabinet	£48.44 37p	LR19V Main Mix Front Panel	£1.36 10p	BB86T Clear Logic PCB	NYA
BB78K Pedal PCB 'B'	NYA			LR29G Mix Pot Bkt	94p	BB87U RAM Board	NYA
BB79L 32-Note Pedal Voice	NYA	<b>Page 15</b>		R10L Group Mix Front Panel	94p	BB88V VDU Control Board	NYA
BB80B Pedal Diode PCB	NYA	XH18U Leaflet MES 22	25p	R137S Mixer I/P Mtg Plate	58p	BB89W Latch PCB	NYA
HQ72P Auto Organ	£1.45	BY78K Piano PSU/Voice PCB	£1.95 14½p	R131J Pan Bd Bkt	33p	BB90X Character Gen PCB	NYA
HQ73Q Auto-Organ	£2.02½	BY79L Piano Top Octave PCB	£3.71 27½p	LR30H Mixer Mic Tr Bkt	27p	BB91Y Graphics Gen PCB	NYA
HQ74R Auto Organ	£2.92½	BY80B Piano Two-Octave PCB	£4.55 33½p	LR09K Mixer Blank Panel	94p	BB92A Output Timing PCB	NYA
HQ75S Pre-Amp PSU PCB	£3.31	XQ06G Piano Cabinet Black	£39.90 £4.43	LR20W Mixer Blank Underpan	45p	BB93B Address Switching PCB	NYA
BB11M Gate Board	37p	XY11M Piano Cabinet Teak	NYA	LR40T Mixer Module Tab	20p	BB94C VDU Interface PCB	NYA
BB04E Tone Board 'C'	£2.99	<b>Page 18</b>		LR06J I/P Jack Identification Tab	20p	BB95D Cassette/Modem PCB	NYA
BB05F Tone Board 'D'	£2.98	XH21X Leaflet MES37	25p				
BB06G Tone Board 'E'	£2.90	XQ03D 10-Channel G.E. PCB	£1.67 19p	LR13P HQ Mixer PCB No. 2	£1.83 13p	BB96E 3-Page Extn Mem PCB	NYA
BB12N Pedal PCB 'A'	£1.99	XB74R 10-Channel Equaliser Metalwork	£8.99 £1.00	LR14Q HQ Mixer PCB No. 3	83p	BB97F 4-Page Control PCB	NYA
BB15R Mother Board 'A'	£7.98	XB75S 10-Channel Equaliser Woodwork	£4.90 54½p	LR15R HQ Mixer PCB No. 4	83p	BB98G VDU PSU PCB	NYA
BB13P A/B Switch Board	93p	XH07H Leaflet MES32	20p	LR34M HQ Mixer PCB No. 24	£1.30 9½p	BB99H VDU Mixer PCB	NYA
BB14Q MES Amp Bd 'A'	36p	XB05F Dyn Noise Fitr PCB	£1.49 16p	LR16S HQ Mixer PCB No. 5	72p	XY12N VDU Front Panel	NYA
XH00A MES51	15p			LR35Q HQ Mixer PCB No. 25	£1.19 9p	<b>Page 24</b>	
XH02C MES52	15p	<b>Page 19</b>		LR21X HQ Mixer PCB No. 6	83p	XH27E Leaflet MES 16	15p
XH04E MES53	35p	XH22Y Leaflet MES38	40p	LR28F HQ Mixer PCB No. 18	43p	BB75S Car Ignition PCB	£1.05 8p
XH31J MES54	30p	LW00A Mixer Metalwork Kit No. 1	£19.50 £1.44	LR33L HQ Mixer PCB No. 23	85p	XF04E Leaflet MES 41	25p
XH33L MES55	30p			LR36P HQ Mixer PCB No. 26	£3.12 23p	BB81C Disco Pre-Amp & Tone	NYA
<b>Page 13</b>				LR41U HQ Mixer PCB No. 27	£2.90 21½p		
XF00A 4600 Synthesiser Book	£1.50			LR22Y HQ Mixer PCB No. 7	£1.40 10p	BB19V Disco PSU PCB	£1.10 8p
BB39N Synth Keyboard Controller PCB	£4.26 31½p			LR23A HQ Mixer PCB No. 8	£1.12 8p	BB20W 100W Amp Board	£1.35 10p
BB42V Synth Noise Controller PCB	£1.60 12p			LR24B HQ Mixer PCB No. 9	£1.19 9p	BB26D Motor Switch PCB	69p
BB46M Synth VCF PCB	£1.41 10½p			LR42V HQ Mixer PCB No. 29	£1.69 12½p	BB27E Light Mod Bd	£2.76 20½p
BB57A Synth Noise Controller Bkt	63p 4½p			LR25C HQ Mixer PCB No. 10	£1.40 10p	BB22Y FET-Ceramic PU Bd	86p
BB61R Synth VCF Mtg Mkt	54p			LR26D HQ Mixer PCB No. 14	£1.36 10p	BB24B Disco Fader Bd	£1.16 8½p
				LR27E HQ Mixer PCB No. 15	£1.38 10p	BB25C VUM & HP Amp Bd	£2.15 16p
						BB18U Heatsink DR2	56p
				<b>Page 22</b>		BB77J Disco Front Panel	£10.80 80p
				XB72P Sine/Square Gen PCB	£2.13 16p	BB77J Disco Cabinet	£32.70 37p
				BB73Q Audio Osc Front Panel	£1.63 12p		
						XX00A IB Metal Dnt PCB	£1.19 9p
						XH20W Leaflet MES 25	15p
						BB16S Orgn/Gtar Bass PCB	£4.95 36½p